

STMICROELECTRONICS STM32 ARM Cortex™



STM32 / MPU / DSP

STM32 (CORTEX™-M4)

The ARM® Cortex™-M4-based STM32 F4 series is an extension of the industry-leading STM32 portfolio towards even higher performance. Like the STM32 F2 series, these MCUs leverage ST's 90 nm NVM technology and ST's ART Accelerator™ to reach the industry's highest benchmark scores for Cortex-M-based microcontrollers with 210 DMIPS at 168 MHz operating frequency. The DSP instructions and the floating point unit enlarge the range of addressable applications. The STM32 F4 series is the result of a perfect symbiosis of the real-time control capabilities of an MCU and the signal processing performance of a DSP, and thus complements the STM32 portfolio with a new class of devices, digital signal controllers (DSC).



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For quantities greater than listed, call for quote.

MOUSER STOCK NO.		Package	Prog. (Bytes)	RAM (Bytes)	A/D Converter	D/A Converter	Serial Interface	I/Os (High Current)	Supply Voltage	Price Each		
Mfr.	Mfr. Part No.									1	10	100
511	—STM32F407VET6	LQFP-100	512KB	192KB	16x12-bit	2x12-bit	3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO	140	1.8	7.96	7.51	7.21
511	—STM32F405RG16	LQFP-64	1MB	192KB	16x12-bit	2x12-bit	3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO	51	1.8	14.40	13.08	11.12
511	—STM32F407VG16	LQFP-100	1MB	192KB	16x12-bit	2x12-bit	3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO	140	1.8	17.00	15.40	13.12
511	—STM32F415RG16	LQFP-64	1MB	192KB	16x12-bit	2x12-bit	3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO	51	1.8	10.10	9.54	9.16
511	—STM32F417VG16	LQFP-100	1MB	192KB	16x12-bit	2x12-bit	3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO	82	1.8	11.24	10.60	10.18
511	—STM32F4071GH6	UFBGA-176	1MB	192KB	24x12-bit	2x12-bit	3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO	140	1.8	19.52	17.72	15.05
511	—STM32F4071GT6	LQFP-176	1MB	192KB	24x12-bit	2x12-bit	3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO	140	1.8	21.76	19.78	16.81
511	—STM32F407ZGT6	LQFP-144	1MB	192KB	24x12-bit	2x12-bit	3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO	114	1.8	18.50	16.88	14.32
511	—STM32F4171GH6	UFBGA-176	1MB	192KB	24x12-bit	2x12-bit	3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO	140	1.8	13.71	12.94	12.43
511	—STM32F4171GT6	LQFP-176	1MB	192KB	24x12-bit	2x12-bit	3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO	140	1.8	14.34	13.55	13.00
511	—STM32F417ZGT6	LQFP-144	1MB	192KB	24x12-bit	2x12-bit	3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO	114	1.8	13.04	12.31	11.83

DEVELOPMENT TOOLS

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MOUSER STOCK NO.		Description	Price Each
Mfr.	Mfr. Part No.		
511	—STM32F4DISCOVERY	Based on the STM32F407VG16, it includes an ST-LINK/V2 embedded debug tool, two ST MEMS, digital accelerometer and digital microphone, one audio DAC with integrated class D speaker driver, LEDs and push buttons and an USB OTG micro-AB connector	16.25
511	—STM3240G-EVAL	Evaluation board is a complete demonstration and development platform for the STM32 F4 series and includes an STM32F4071GH6 high-performance ARM® Cortex™-M4F 32-bit microcontroller.	348.00
511	—STM3241G-EVAL	Evaluation board is a complete demonstration and development platform for the STM32 F4 series and includes an STM32F4171GH6 high-performance ARM® Cortex™-M4F 32-bit microcontroller with a cryptographic acceleration cell.	348.00

STM32 (CORTEX™-M3)

The STM32 family of 32-bit Flash Microcontrollers is based on the breakthrough ARM Cortex™-M3 core - a core specifically developed for embedded applications. The STM32 family benefits from the Cortex-M3 architectural enhancements including the Thumb-2 instruction set to deliver improved performance with better code density, significantly faster response to interrupts, all combined with industry leading power consumption. ST is now the first leading MCU supplier to introduce a product family based on this core. The STM32 family is built to offer new degrees of freedom to MCU users. It offers a complete 32-bit product range that combines high performance, low power and low voltage, while maintaining full integration and ease of development.



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Mfr.	Mfr. Part No.								1	10	100
511	—STM32F100C4T6B	LQFP-48	16KB	4KB	1x10-bit ADC, 1x5-bit timer	2xUSART, 1xSPI, 1xI2C, 2x12-bit DAC	37 (37)	2.0 to 3.6	2.73	2.30	1.97
511	—STM32F100R4T6B	LQFP-64	16KB	4KB	1x16-bit ADC, 1x5-bit timer	2xUSART, 1xSPI, 1xI2C, 2x12-bit DAC	51 (51)	2.0 to 3.6	2.80	2.45	2.04
511	—STM32F100C6T6B	LQFP-48	32KB	4KB	1x10-bit ADC, 1x5-bit timer	2xUSART, 1xSPI, 1xI2C, 2x12-bit DAC	37 (37)	2.0 to 3.6	2.85	2.50	2.08
511	—STM32F100R6T6B	LQFP-64	32KB	4KB	1x16-bit ADC, 1x5-bit timer	2xUSART, 1xSPI, 1xI2C, 2x12-bit DAC	51 (51)	2.0 to 3.6	3.19	2.58	2.34
511	—STM32F100C8T6B	LQFP-48	64KB	8KB	1x10-bit ADC, 1x6-bit timer	3xUSART, 2xSPI, 1xI2C, 2x12-bit DAC	37 (37)	2.0 to 3.6	3.84	3.08	2.80
511	—STM32F100V8T6B	LQFP-100	64KB	8KB	1x16-bit ADC, 1x6-bit timer	3xUSART, 2xSPI, 1xI2C, 2x12-bit DAC	80 (80)	2.0 to 3.6	4.68	4.17	3.75
511	—STM32F100VB16T6B	LQFP-100	64KB	8KB	1x16-bit ADC, 1x6-bit timer	3xUSART, 2xSPI, 1xI2C, 2x12-bit DAC	80 (80)	2.0 to 3.6	5.15	4.60	4.14
511	—STM32F101C8T6	LQFP-48	64KB	10KB	1x12-bit ADC, 3x16-bit timer	3xUSART, 2xSPI, 2xI2C	32 (32)	2.0 to 3.6	6.60	5.90	4.85
511	—STM32F103T8U6	VFQFPN-36	64KB	20KB	2x16-bit ADC, 2x24-bit timer	2xSPI, 2xI2C, 3xUSART, IrDA/ISO78/LIN	26 (26)	2.0 to 3.6	6.44	6.34	5.53
511	—STM32F105R8T6	LQFP-64	64KB	20KB	2x16-bit ADC, 4x16-bit timer	OGT, 5xUSART, 3xSPI, 2xI2C, USB/2CAN, PWM	51 (80)	2.0 to 3.6	9.15	8.23	6.75
511	—STM32F103C8T6	LQFP-48	64KB	64KB	2x12-bit ADC, 3x16-bit timer	3xUSART, 2xSPI, 2xI2C, PWM timer, USB/CAN	32 (32)	2.0 to 3.6	8.13	7.30	6.00
511	—STM32F103R8T6	LQFP-64	64KB	64KB	2x12-bit ADC, 3x16-bit timer	3xUSART, 2xSPI, 2xI2C, PWM timer, USB/CAN	49 (49)	2.0 to 3.6	8.73	7.85	6.42
511	—STM32F103V8T6	LQFP-100	64KB	64KB	2x12-bit ADC, 3x16-bit timer	3xUSART, 2xSPI, 2xI2C, PWM timer, USB/CAN	80 (80)	2.0 to 3.6	9.80	8.52	7.21
511	—STM32F100CBT6B	LQFP-48	128KB	8KB	1x10-bit ADC, 1x6-bit timer	3xUSART, 2xSPI, 1xI2C, 2x12-bit DAC	37 (37)	2.0 to 3.6	4.42	3.90	3.22
511	—STM32F100RB16T6B	LQFP-64	128KB	8KB	1x16-bit ADC, 1x6-bit timer	3xUSART, 2xSPI, 1xI2C, 2x12-bit DAC	51 (51)	2.0 to 3.6	4.79	4.25	3.50
511	—STM32F105RB16T6B	LQFP-64	128KB	64KB	2x16-bit ADC, 4x16-bit timer	OGT, 5xUSART, 3xSPI, 2xI2C, USB/2CAN, PWM	51 (80)	2.0 to 3.6	10.65	9.55	7.84
511	—STM32F105VBT6	LQFP-100	128KB	64KB	2x16-bit ADC, 4x16-bit timer	OGT, 5xUSART, 3xSPI, 2xI2C, USB/2CAN, PWM	51 (80)	2.0 to 3.6	11.90	10.71	8.80
511	—STM32F101CBT6	LQFP-48	128KB	128KB	1x12-bit ADC, 3x16-bit timer	3xUSART, 2xSPI, 2xI2C, PWM timer, USB/CAN	80 (80)	2.0 to 3.6	8.13	7.30	5.98
511	—STM32F101RB16T6	LQFP-64	128KB	128KB	1x12-bit ADC, 3x16-bit timer	3xUSART, 2xSPI, 2xI2C	49 (49)	2.0 to 3.6	8.53	7.67	6.30
511	—STM32F103CBT6	LQFP-48	128KB	128KB	2x12-bit ADC, 4x16-bit timer	3xUSART, 2xSPI, 2xI2C, PWM timer, USB/CAN	80 (80)	2.0 to 3.6	9.60	8.64	7.07
511	—STM32F103RB16T6	LQFP-64	128KB	128KB	2x12-bit ADC, 3x16-bit timer	3xUSART, 2xSPI, 2xI2C, PWM timer, USB/CAN	49 (49)	2.0 to 3.6	10.15	9.10	7.50
511	—STM32F103RC16T6	LQFP-64	256KB	48KB	3x12-bit ADC, 8x16-bit timer	2xUSART, 3xSPI, 2xI2C, USB/CAN	51 (51)	2.0 to 3.6	11.20	10.18	8.65
511	—STM32F103VCT6	LQFP-100	256KB	48KB	3x12-bit ADC, 8x16-bit timer	5xUSART, 3xSPI, 2xI2C, SDIO, USB/CAN	80 (80)	2.0 to 3.6	12.25	11.12	9.45
511	—STM32F105RC16T6	LQFP-64	256KB	64KB	2x16-bit ADC, 4x16-bit timer	OGT, 5xUSART, 3xSPI, 2xI2C, USB/2CAN, PWM	51 (80)	2.0 to 3.6	11.30	10.28	8.75
511	—STM32F105VCT6	LQFP-100	256KB	64KB	2x16-bit ADC, 4x16-bit timer	OGT, 5xUSART, 3xSPI, 2xI2C, USB/2CAN, PWM	51 (80)	2.0 to 3.6	12.40	11.30	9.60
511	—STM32F107RC16T6	LQFP-64	256KB	64KB	2x16-bit ADC, 4x16-bit timer	OGT, 5xUSART, 3xSPI, 2xI2C, USB/2CAN, PWM	51 (80)	2.0 to 3.6	12.43	11.31	9.61
511	—STM32F107VCT6	LQFP-100	256KB	64KB	2x16-bit ADC, 4x16-bit timer	OGT, 5xUSART, 3xSPI, 2xI2C, USB/2CAN, PWM	51 (80)	2.0 to 3.6	13.68	12.44	10.57
511	—STM32F103VDT6	LQFP-100	384KB	64KB	3x12-bit ADC, 8x16-bit timer	5xUSART, 3xSPI, 2xI2S, PWM, SDIO, USB/CAN	80 (80)	2.0 to 3.6	13.72	12.33	10.62
511	—STM32F103RET6	LQFP-64	512KB	64KB	3x12-bit ADC, 4x16-bit timer	5xUSART, 2xSPI, 2xI2C, 1xI2S, USB/CAN	51 (51)	2.0 to 3.6	14.52	13.20	11.20
511	—STM32F103VE16T6	LQFP-100	512KB	64KB	3x12-bit ADC, 4x16-bit timer	5xUSART, 2xSPI, 2xI2C, SDIO, USB/CAN	80 (80)	2.0 to 3.6	15.40	14.00	11.90
511	—STM32F103ZE16T6	UFBGA-144	512KB	64KB	3x12-bit ADC, 8x16-bit timer	5xUSART, 3xSPI, 2xI2C, SDIO, USB/CAN	112 (112)	2.0 to 3.6	16.90	15.35	13.02
511	—STM32F103ZE16T6	LQFP-144	512KB	64KB	3x12-bit ADC, 4x16-bit timer	5xUSART, 2xSPI, 2xI2C, 1xI2S, USB/CAN	112 (112)	2.0 to 3.6	16.90	15.32	13.02
511	—STM32F103VFT6	LQFP-100	768KB	96KB	3x12-bit ADC, 10x16-bit timer	5xUSART, 3xSPI, 2xI2C, USB, CAN, SDIO, PWM	80 (80)	2.0 to 3.6	12.66	11.51	9.78
511	—STM32F103RG16T6	LQFP-64	1MB	96KB	3x12-bit ADC, 10x16-bit timer	5xUSART, 3xSPI, 2xI2C, USB, CAN, SDIO, PWM	51 (51)	2.0 to 3.6	15.91	14.64	13.37
511	—STM32F103VG16T6	LQFP-100	1MB	96KB	3x12-bit ADC, 10x16-bit timer	5xUSART, 3xSPI, 2xI2C, USB, CAN, SDIO, PWM	80 (80)	2.0 to 3.6	14.80	13.40	11.40
511	—STM32F103ZG16T6	LQFP-144	1MB	96KB	3x12-bit ADC, 10x16-bit timer	5xUSART, 3xSPI, 2xI2C, USB, CAN, SDIO, PWM	112 (112)	2.0 to 3.6	18.48	16.95	15.52

DEVELOPMENT TOOLS

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MOUSER STOCK NO.		Description	Price Each
Mfr.	Mfr. Part No.		
511	—STM32L152-EVAL	Complete hardware emulation platforms with the STM32L152, implementing the full range of device peripherals and features	249.00
511	—STM32L1-DISCOVERY	Includes a 6-digit LCD display, one touch-sensing slider, 2 LEDs, 1 user button, current measurement and the embedded debugger (ST-LINK/V2).	14.95
511	—STM32VLDISCOVERY	Includes an STM32F100 and an in-circuit ST-Link debugger/programmer to debug Discovery applications and other target board applications.	11.85
511	—STM32100B-EVAL	STM32F100V EVB w/HDMI CEC, 2xI2C, 2 SPI channels, 3 USART channels, 8 KB SRAM, 128 KB internal Flash, JTAG & SWD debugging.	235.00
511	—STM3210B-MCKIT	Starter kit (w/STM32F103xV) provides a complete development platform for motor control applications	1477.73
511	—STM3210E-EVAL	512K version of complete hardware evaluation platform with the STM32F103, implementing the full range of device peripherals and features.	248.75
511	—STM3210C-EVAL	Complete Connectivity Platform with USB-OTG, MAC, 2 CAN2.0, 2I2C, 5 USART, Smartcard, SPI, JTAG, SWD and Debugging Support	298.75
511	—STM32-COMSTICK	Complete low-cost Hitex evaluation supporting 10/100 ethernet, USB 2.0, Full-speed device/host/OTG with on-chip PHY and CAN	100.80
511	—STEVAL-IPC003V1	Demonstration board is a thermal printer adapter board for the STM3210C_EVAL and offers a solution for parking ticket vending machines.	65.00

